

# **Opportunities for South Dakota**



**Office of the Executive Director  
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## *Message from the Executive Director*



Armed with information about long-term demographic shifts taking place in South Dakota, the Board of Regents initiated a discussion in March 2002 about South Dakota's future educational

opportunities. Linked to ever-present conversations about maximizing resource investments in state services, including higher education and the special schools, along with questions about how South Dakota would respond to changes in the national and international economy, this dialogue became an opportunity to think more about where we are and where we might go.

At the Regents' direction, the Executive Director was tasked with preparing a report on South Dakota Opportunities.

Over the past year and several months, the Executive Director engaged a wide range of parties in conversations about issues and opportunities in the South Dakota public education system. This dialogue has included students, faculty, administrators, and staff at each of the regental institutions. Also included have been the alumni and foundations at each of these institutions.

Outside the higher education and special school families, there have been meetings with local chambers of commerce and community leadership, the South Dakota Chamber of Commerce and Industry, agriculture groups, and private businesses, including several in the medical field. State policymakers have engaged

these issues during roundtables and other discussions with the Regents and its leadership. The Regents' partners in education, those in the K-12 community, have been willing participants in multiple discussions. These have included meetings with the South Dakota Board of Education, school leadership groups, the state's teachers, and several local school boards. Obviously, there are many others who might have been consulted. Nonetheless, the variety of backgrounds of those involved has provided a solid base for understanding the critical issues.

This report offers a synthesis of many ideas and opportunities. With continued examination and dialogue, these ideas may make a difference in long-term policy and actions. Hopefully, somewhere within the context of the 14 opportunities identified, there is sufficient room to address any substantive policy item that arises.

This is not a plan or roadmap for South Dakota regental policy and action. It is a tool, however, for continuing the review and development of ideas. It is intended to offer structure to the continuing dialogue by offering specific foci for these discussions. It is not something to endorse or approve, rather it is to be a guide for the exchange of views in the months and years ahead.

The Executive Director is grateful to those individuals who took time to share their ideas with him during the past year. Although the results in this report are his responsibility alone, it would not have been as rich without their collective input.

These are opportunities that will challenge us. So let's begin.

Sincerely,

A handwritten signature in dark ink, appearing to read "Tad Perry". The signature is fluid and cursive, with a large, sweeping initial "T".

Robert T. Tad Perry  
Executive Director



## Opportunities for South Dakota

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# Opportunities for South Dakota

## Executive Summary

### Situation:

1. There will be a reduction of traditional college-age population in the decades ahead.
2. There will be a slight increase in non-traditional students in the decades ahead.
3. There will be significant growth in the population of the Sioux Falls area.
4. There will be a significant increase in South Dakota's older populations.

### Assumptions and Guiding Principles:

1. The Legislature establishes postsecondary institutions in South Dakota.
2. All existing universities will remain and serve primarily traditional-age college students, however, they may consolidate services and positions where practical and economical.
3. Non-traditional age students will continue to grow as a percentage of the population served by the universities.
4. The regental system must continue to maximize the use of available funding.
5. The universities will make stronger and more focused connections to the state's economy.

### Vision for South Dakota:

1. South Dakota will have a population that reflects the synergy of an educated populace.
2. South Dakota will have a growing working-age population with the education needed to support a growing knowledge-based economy.
3. South Dakota will increasingly benefit from a significant increase in research and development.
4. South Dakota will be a national leader in the use of information technology.

### Policy Goals for the System of Public Higher Education:

1. **Access:** Every qualified South Dakotan shall have access to public postsecondary education.
2. **Quality:** South Dakota public universities and special schools shall provide a quality educational experience.
3. **State Wealth:** South Dakota public universities shall engage in activities designed to enhance the state's long-term economy.
4. **Efficiencies:** South Dakota public universities and special schools shall continue to seek means for improving efficiency in the delivery of educational services.

## Opportunities for South Dakota

### Opportunities for South Dakota

#### **Opportunity #1—Connecting Education Policy**

Create an education leadership forum for semi-annual discussions of education policy.

#### **Opportunity #2 – High School Preparation and Postsecondary Enrollment**

Provide students and parents with additional information. Define what is meant by “college prep” and establish the college prep curriculum as the expected program of study in high school. Provide opportunity for K-12 teachers and university faculty to have discussions about connecting the curriculum in their discipline. Require more rigorous preparation in mathematics. Improve teacher preparation in mathematics. Fund the Regents Scholarship Program.

#### **Opportunity #3 —University Student Success**

Continue existing retention efforts and focus additional attention on strategies that will increase the percentage of entering students who complete degrees in a timely manner.

#### **Opportunity #4—Rapid City and Black Hills Area**

Explore alternatives for the delivery of public postsecondary education in the region. Review duplication of curriculum delivery and work toward a common delivery approach.

#### **Opportunity #5—Greater Sioux Falls Area**

Provide basic undergraduate programs and selected graduate programs delivered so as to accommodate the schedules of prospective students. Evaluate additional degree programs to determine whether there is sufficient demand to warrant offering in Sioux Falls. Ensure that it is possible for students to complete degrees in a timely manner. Review undergraduate admissions to assess the effects of current policies.

#### **Opportunity #6—Off-campus Instructional Services**

Organize the delivery of off-campus programs and services under a common leadership that can effectively integrate responses to the needs of this special population. Respond with a unified approach to the need for university courses at technical institute sites, especially in the general education disciplines. Complete the STUDENT Project and the development of online services through technology.

#### **Opportunity #7—Salary Enhancement and Competitiveness in the Recruitment and Retention of Faculty and Administrators**

Continue the Salary Competitiveness Program to bring salaries closer to regional levels.

### **Opportunity #8—Technology at the Universities and in the Curriculum**

Continue to improve the use of technology in the curriculum of the universities and the development of online services.

### **Opportunity #9—Increasing Academic Expectations**

Continue leadership efforts to increase the rigor of student academic experiences by developing plans to increase written and spoken communications expectations across the curriculum and by including normed assessments in capstone courses.

### **Opportunity #10—Teacher & School Administrator Education**

Analyze demand for teachers and administrators. Participate in an analysis of state regulations governing teacher education programs. Analyze teacher education programs to identify changes that would improve quality and respond to the changing demographic and legal environment.

### **Opportunity #11—Coordination of Health Care Degree Programs**

Create a health care programs consortium that oversees the relationship of health care degree programs to health care providers. Analyze health care degree program operations to identify changes that would improve quality. Review the long-term need for health science workers in the state.

### **Opportunity #12—System Research Infrastructure for the New Economy**

Develop a system office for research and knowledge transfer that could assist the state, the Board of Regents, and the universities in efforts to increase research activity.

### **Opportunity #13—Administrative Support and Operations**

Develop a system “director of innovation” position with responsibility for identifying and facilitating the adoption of best practices, including those that may reduce expenditures.

### **Opportunity #14—Deaf Education**

Review the educational services for the deaf and hearing impaired to accommodate multiple educational and communication platforms, including examination of the alternatives for sub-state and multi-state approaches for achieving critical mass to enhance the educational program.



## Opportunities for South Dakota

### Introduction and Background

The South Dakota Opportunities Report is being presented to the Board of Regents in fulfillment of the Board's directive to the Executive Director at its March 2002 meeting. The report is intended to offer a variety of ideas gleaned from conversations at numerous meetings with individual campus groups of students, faculty, and administrators; university foundation and alumni groups; community representatives; the business, medical, and agriculture communities; and state policymakers.

What is captured in the report is the Executive Director's synthesis of those ideas and situations that merit additional thought, conversation, and study. What follows are not a series of recommendations, but rather a series of things to think more about. These items will require further investigation, study, detailed consideration of implementation approaches, or simply thinking more in-depth about the consequences of such ideas.

### The South Dakota Situation

- By 2025, the 18- to 24-year-old population will decrease from 82,000 to 74,000 in the state.
- By 2025, the 25- to 64-year-old population will increase from 375,000 to 394,000 in the state.
- By 2010, high school graduates will decline by 1,800 students, or 28 percent.
- Adjacent states with high school graduates declining include North Dakota, Nebraska, Wyoming, Montana, and Iowa.
- Neither of South Dakota's population centers, Sioux Falls and Rapid City, has a public comprehensive university.

### Assumptions and Guiding Principles

The South Dakota Board of Regents was created by the state's Constitution.

In that fundamental law, the state's citizens provided:

***Board to govern state educational institutions.*** *The state university, the agriculture college, the school of mines and technology, the normal schools, a school for the deaf, a school for the blind, and all other educational institutions that may be sustained either wholly or in part by the state shall be under the control of a board of five members appointed by the Governor and confirmed by the senate under such rules and restrictions as the Legislature shall provide. The Legislature may increase the number of members to nine. [Article XIV, Section 3, South Dakota State Constitution]*

The South Dakota Legislature established the universities and provided their purposes (BHSU, SDCL 13-59-1; DSU, 13-59-2.2; NSU, 13-59-1; SDSM&T, 13-60-1; SDSU, 13-58-1; USD, 13-57-1). Only the Legislature may enact laws establishing universities or repeal existing laws. The Board of Regents governs the universities established by the Legislature, consistent with the purposes provided in law.

In addition to this fundamental understanding of the Constitution, this report rests on the following assumptions and guiding principles:

1. All existing university campuses will continue with a primary service mission for traditional college-age students.

2. Each university will have its own president, will continue to be responsible for its own regional and specialized accreditation, will have its own alumni association, and its own foundation.
3. Service to traditional students will be stable as a result of increased proportions of high school graduating classes attending public universities and increased emphasis on retaining matriculating students.
4. There will be an increasing need to provide educational services to the non-traditional student (24-55 years of age).
5. There will be a continuing need to maximize the use of available funding resources, including consolidation of positions and services where practical and economic.
6. Public universities will make stronger and more focused connections to the needs of the state and its economy.
7. There is a continuing responsibility to provide quality educational experiences for those who are blind and visually impaired and deaf and hard of hearing.

## **Vision for South Dakota**

Higher education as a state service evolves from the vision held for the state as a whole. To align higher education priorities in a meaningful way, it is first helpful to offer a sense of the South Dakota that might exist in the decades to come.

1. South Dakota will have a population that reflects the synergy of an educated populace—proportions of the population graduating from high school and college and with

graduate degrees will be among the nation's best, and those holding college degrees will have access to their continuing needs to change and upgrade credentials while in the workforce.

### **Current Status:**

- 86.8 percent of the population over 25 years of age is high school graduates [national = 81.6 percent]. (U.S. Census 2001)
- 23.6 percent of the population over 25 years of age is college or above graduates [national = 25.1 percent]. (U.S. Census 2001)
- 6.5 percent of the population over 25 years of age has a graduate degree [national = 9.0 percent]. (U.S. Census 2001)

2. South Dakota will have a growing working-age population [25-55 years of age] that has the education needed to support a growing knowledge-based economy.

### **Current Status:**

- South Dakota ranks 39th among the states on educational attainment for bachelor's or higher degrees. (Milken Institute's New Economy Index)
- South Dakota ranks 47<sup>th</sup> among the states on educational attainment for advanced degrees. (Milken Institute's New Economy Index)
- South Dakota ranks 44<sup>th</sup> among the states in doctoral scientists and engineers as a percentage of the workforce. (Progressive Policy Institute's New Economy Index)



## Opportunities for South Dakota

- South Dakota ranks 32<sup>nd</sup> among the states in workers in the information technology professions as a portion of the total workforce. (Progressive Policy Institute's New Economy Index)
  - South Dakota ranks 31<sup>st</sup> among the states in the total educational attainment of the workforce. (Progressive Policy Institute's New Economy Index)
3. South Dakota will increasingly benefit from a significant increase in research and development (R&D) work, as evidenced by an enhanced rank among the states in R&D investments, patents, and copyrights.

### Current Status:

- South Dakota ranks 26<sup>th</sup> among the states in the proportion of employment in managerial and professional occupations. (The National Information Center for Higher Education Policymaking and Analysis)
- South Dakota ranks 40<sup>th</sup> among the states in the proportion of employment in professional, education, health, and social service industries. (The National Information Center for Higher Education Policymaking and Analysis)
- South Dakota ranks 50<sup>th</sup> among the states in industry investment in research and development as a percentage of Gross State Product. (Progressive Policy Institute's New Economy Index)

- South Dakota ranks 49<sup>th</sup> among the states in academic research and development dollars per capita. (Milken Institute's New Economy Index)
  - South Dakota ranks 50<sup>th</sup> among the states in patents awarded per 1,000 workers. (Progressive Policy Institute's New Economy Index)
4. South Dakota will be a national leader in the use of information technology to enhance the state's educational, economic, social, scientific, and political development.

### Current Status:

- South Dakota is tied for 1<sup>st</sup> among the states in technology in education. (The Progress & Freedom Foundation and Center for Digital Government's Digital State Survey)
- South Dakota ranks 9<sup>th</sup> among the states in adopting digital technologies to improve delivery of services to citizens. (The Progress & Freedom Foundation and Center for Digital Government's Digital State Survey)

## Policy Goals for the System of Public Higher Education

Public higher education has a significant role in contributing to the state's progress in the 21<sup>st</sup> century. An alignment of state and public higher education goals is necessary to achieve these prospects. The following higher education policy goals will guide the Board of Regents and the universities over the next several years.

### Policy Goal #1

**Access: Every qualified South Dakotan shall have access to public postsecondary education.**

#### **1. Strengthen the connection of universities in the preparation for postsecondary education in the K-12 community.**

- a. Extend outreach activities of the university system to K-12 schools.
- b. Provide college preparatory curriculum opportunity for all students.
- c. Provide dual credit opportunities for all students.
- d. Provide incentives for students to take rigorous college preparatory curriculum.
- e. Enhance information available to parents, students, school personnel, and the public on the connection between secondary and postsecondary education.
- f. Public universities will improve the preparation of K-12 teachers to meet increased student curriculum expectations.

#### **2. Educate a greater proportion of high school graduates and the adult working population.**

- a. Increase the public university share of South Dakota high school graduates.
- b. Increase the retention of South Dakota students entering the universities.

- c. Increase the proportion of the adult population [ages 25-55] enrolled in a public university.
- d. Integrate university general education at the technical institute locations and in Pierre to enhance student mobility in postsecondary education programs.
- e. Increase coordination of curriculum with technical institutes to eliminate duplication of college transfer courses, including the offering of university courses at technical institute locations.

#### **3. Increase retention and graduation rates.**

- a. Increase the proportion of entering students who stay in the public university system.
- b. Increase the proportion of entering students who graduate from a public university.
- c. Increase the yield of college graduates relative to the high school graduation rate.
- d. Increase the attractiveness of the public universities to non-resident students.
- e. Enhance private fund raising for student scholarships.

## Opportunities for South Dakota

### Policy Goal # 2

**Academic Quality and Performance: South Dakota public universities and special schools shall provide a quality educational experience.**

- 4. Hire and retain the best available talent pool in teaching, research, and administration.**
  - a. Reduce the gap between salaries in the system and those in surrounding states.
  - b. Enhance private fund raising for academic support.
- 5. Adapt instruction to contemporary technology.**
  - a. Increase the use of technology in all instruction.
  - b. Adjust technology literacy requirements for students to match changes in new student population experiences.
- 6. Increase rigor of student academic experiences.**
  - a. Include major field nationally normed assessment in capstone experiences and record percentile scores for all students.
  - b. Increase the writing and speech communications expectations for all students throughout the curriculum.

### Policy Goal #3

**State Wealth: South Dakota public universities shall engage in activities designed to enhance the state's long-term economy.**

- 7. Enhance research and development productivity through grants and**
  - a. Increase contract and grant activity at all public universities.
  - b. Enhance research and development activity in select graduate programs in science, health, engineering, and information technology.
  - c. Concentrate research investments in areas important to the state.
  - d. Increase quality of graduate programs, including recruitment of graduate students and competitiveness of assistantships.
- 8. Increase the universities' role in stimulating economic activity in the state.**
  - a. Increase alliances with businesses and economic development leaders that contribute to growing and attracting new jobs.
  - b. Increase the number of graduates in academic disciplines critical to the South Dakota economy, especially in the health sciences.
  - c. Increase the level of contract technical assistance and R&D with South Dakota enterprises.
  - d. Increase the number of patents and copyrights issued to public universities.
- 9. Teach more entrepreneurship skills to students and faculty.**
  - a. Provide minors in entrepreneurship at each university.
  - b. Provide faculty and student development opportunities focused on how to transfer new knowledge into economic activity.
  - c. Increase internships and mentoring relationships with South Dakota entities.
  - d. Increase the number of graduates with field experience in their discipline.

#### **Policy Goal #4**

**Efficiency: South Dakota public universities and special schools shall continue to seek means for improving efficiency in the delivery of educational services.**

#### **10. Increase effective use of the state's limited resource base.**

- a. Change system processes and structures to maximize resource use.
- b. Substitute new curriculum for unnecessary and dated curriculum.
- c. Manage workload assignments to maximize use of available total system resources.
- d. Collaboratively use technology to deliver instructional services.

#### **History of Responsiveness and Efficiency**

The public universities in South Dakota have responded over the past seven years with significant redirections of resources and activities to address important needs of the state. Nearly 50 academic programs have been implemented without new state resources, almost 20 percent of the institutional base budgets have been reallocated to higher policy priorities, nine Centers of Excellence have been established, and academic quality is now measured and consistently demonstrates a performance above national norms without new state investments.

This tradition of responsiveness to the needs of the state will continue. The universities will:

- Sustain and improve upon the flexibility of institutions to adapt to change within their resource allocation.
- Continue to redirect resources among new priorities.
- Continue to fund new degree program needs through curriculum resource reallocations.
- Continue to seek new approaches to collaboration among the universities.
- Continue to enhance educational services through the use and adoption of technology and its applications, especially where other institutions have successfully invested in alternatives.

### Opportunities Related to Access

*Opportunities Related to Access—reflect the need to deliver curricular services within the changing environment of the state.*

#### **Policy Goal #1 Access: Every qualified South Dakotan shall have access to public postsecondary education.**

##### **Strengthen the connection of universities in the preparation for postsecondary education in the K-12 community.**

- Extend outreach activities of the university system to K-12 schools.
- Provide college preparatory curriculum opportunity for all students.
- Provide dual credit opportunities for all students.
- Provide incentives for students to take rigorous college preparatory curriculum.
- Enhance information available to parents, students, school personnel, and the public on the connection between secondary and postsecondary education.
- Public universities will improve the preparation of K-12 teachers to meet increased student curriculum expectations.

##### **Educate a greater proportion of high school graduates and the adult working population.**

- Increase the public university share of South Dakota high school graduates.
- Increase the retention of South Dakota students entering the universities.
- Increase the proportion of the adult population [ages 25-55] enrolled in a public university.
- Integrate university general education at the technical institute locations and in Pierre to enhance student mobility in postsecondary education programs.
- Increase coordination of curriculum with technical institutes to eliminate duplication of college transfer courses, including the offering of university courses at technical institute locations.

##### **Increase retention and graduation rates.**

- Increase the proportion of entering students who stay in the public university system.
- Increase the proportion of entering students who graduate from a public university.
- Increase the yield of college graduates relative to the high school graduation rate.
- Increase the attractiveness of the public universities to non-resident students.
- Enhance private fund raising for student scholarships.

## ***Opportunity #1—Connecting Education Policy***

The K-12 and higher education systems are interdependent and must collaborate with each other to make progress toward policy goals important to the state. The K-12 system prepares students for college and the colleges prepare the teachers who will prepare the next generation of college students. We have a circular situation in which we must satisfy the policy demands of the state.

Preparing graduates to meet the needs of the state's changing economy requires an increase in the proportion of high school graduates who are prepared for and enter college. And, it requires an increase in the percentage of entering college students who complete degrees.

K-12 and higher education working together is not just an option—it is vital to our common success. To achieve our goals, an ongoing dialogue that includes the appropriate parties in the educational process is necessary. The definition of a college preparatory curriculum, incentives for taking college prep courses, opportunities for high school students to enroll in university courses (“dual credit”), the preparation of teachers, and a variety of other issues would benefit from regular conversations among leaders of both K-12 and postsecondary education.

### **Opportunities:**

Create a policy leadership “South Dakota Education Forum” for semi-annual discussions of education policy. The forum could include representatives from the South Dakota Board of Education, the Department of Education, the Board of Regents, members of the Legislature’s committees on education and appropriations, the Governor, the

Education Review Panel, Associated School Boards of South Dakota, School Administrators of South Dakota, South Dakota Education Association, and the South Dakota Parent-Teacher Association.

### **Next Steps:**

- Initiate discussions with state policy leadership.

## ***Opportunity #2—High School Preparation and Postsecondary Enrollment***

The information economy of the future will require a college-educated workforce. For South Dakota’s economy to grow and develop, the percentage of adults with college degrees (including graduate degrees) will need to increase. There are several indicators that suggest South Dakota needs to focus attention on how students are prepared for life after high school. These include:

- The percentage of high school graduates taking the ACT test who indicate they have taken a college preparatory curriculum has declined to 62 percent.
- The percentage of students who take 8<sup>th</sup> grade Algebra has declined from 12 percent to 9 percent, according to the *Measuring Up 2002* report.
- Thirty-five percent of the 2002 South Dakota high school graduates who were degree seeking at the state universities in Fall 2002 had ACT math subtest scores that did not suggest readiness for College Algebra.
- Twenty-two percent of the 2002 South Dakota high school graduates who were degree seeking at the state universities in Fall 2002 had ACT English subtest scores that did not suggest readiness for Freshman Composition.



## Opportunities for South Dakota

Student preparation for postsecondary education has attracted considerable national attention (see *Measuring Up 2002*, National Center for Public Policy and Higher Education, October 2002 and *Add it Up: Mathematics Education in the U.S. Does Not Compute*, Education Trust 2002). These discussions have underscored several fundamental propositions for the education system. These include the need to:

- Improve mathematics instruction in grades 7-12.
- Prepare more students for postsecondary education.
- Better prepare students for postsecondary education.
- Graduate more students from postsecondary programs.

Mathematics is critical to the long-term viability of the state and its economy. Math is fundamental preparation for work in the science, engineering, and information technology sectors of the new economy. Much of the knowledge required to generate new economic endeavors rests on a solid background in mathematics.

Furthermore, math preparation is the single best indicator of success in postsecondary education. The better a student is prepared in math, the more likely he or she is to pursue and complete a postsecondary degree. To increase the number of postsecondary degree holders in the state's population as the foundation for competing in a knowledge-based economy, more and better math preparation is fundamental.

Parents will need to be informed about the importance of their children preparing for college while still in high school. While high schools can make rigorous college prep courses available, parents must also be involved and insist their children take the courses that will prepare them for college.

The cost of college cannot be ignored in any discussion of efforts to increase the percentage of high school graduates who attend college and the percentage of high school graduates who attend in-state colleges and universities. While federal financial aid is available for students whose families qualify, the cost of attending college on a full-time basis is significant for many South Dakota families, especially among those whose children are not going to college now.

Other states are making significant efforts to retain their best students (that is, to persuade them not to leave for places such as South Dakota). Out-of-state universities, including those in Nebraska and North Dakota, recruit South Dakota high school seniors with tuition reductions and discounts.

In 2003, the South Dakota Legislature passed and Governor Rounds signed the Regents Scholarship Program. Students taking a more rigorous curriculum and staying in state for college can receive significant financial incentives. This is a major policy statement on the need for better choices in curriculum preparation. It is also a major statement on the policy goal of retaining talented young persons in South Dakota. Its potential impact on the long-term development of the state is significant.

## Opportunities:

National and state policymakers are currently focusing attention on K-12 preparation. Thus, the time may be right to engage in further discussions related to these issues. Possible directions include:

- Providing parents and students with postsecondary and life-planning information, including, for example, the importance of taking mathematics in elementary and secondary school, reasons to aspire to postsecondary study, and the motivations for focusing on lifetime preparation and increased earning potential.
- Establishing the “college-prep” curriculum as the expected program of study in high schools—match high school graduation requirements with college admissions requirements.
- Developing consistent understanding of the content and rigor needed for courses to be “college prep.” (What does “college prep” mean in the classroom in terms of content and performance expectations?)
- Requiring more rigorous academic preparation in high school, especially in math coursework. Four years of Algebra I and above would be ideal.
- Improving teacher preparation in mathematics:
  - A stronger background in math for new teachers.
  - Stronger mathematics preparation for teacher certification.
  - Eliminate policies that allow non-certified educators or teachers not fully prepared to teach mathematics.

- Establishing regular opportunities for K-12 teachers and university faculty in the same disciplines to meet with each other to exchange ideas.
- Focusing policymaker attention on the importance of a state-funded financial aid program to help retain students, particularly those who are aggressively recruited by out-of-state colleges and universities.

## Next Steps:

- Expand the South Dakota CollegePrep program begun in 2003 to inform students and parents about the courses that should be taken in high school. Consider a means for providing information to elementary school parents.
- Initiate a collaborative project to define and outline the content of courses in “college prep” curriculum, beginning with the mathematics sequence.
- Initiate discussions with the Department of Education and the South Dakota Board of Education concerning the mathematics preparation required for teacher certification and policies that allow persons who are not fully prepared to teach mathematics.
- Fund the Regents Scholarship Program.

## Opportunities for South Dakota

### *Opportunity #3—University Student Success*

Preparation for college is only the first step. Once students reach the university system, too many of them do not remain enrolled, make desired progress toward a degree, or graduate. While retention at the institutional level is very appropriately an issue for each university, retention of the student within the South Dakota public higher education system as a whole is a primary consideration. Of the 2001 high school graduates who were “degree seeking” and enrolled for at least 12 hours in Fall 2002:

- 35 percent were enrolled at the same university and classified as a freshman
- 36 percent were enrolled at the same university and classified as a sophomore, junior, or senior, or were enrolled but not seeking a degree
- 71 percent were enrolled at the same university.

An additional 4.5 percent of the students were enrolled at a different regental university in Fall 2002. When retention and progression within the system are examined, the results change slightly:

- 38 percent were enrolled in the regental system and classified as a freshman
- 36 percent were enrolled in the regental system and classified as a sophomore, junior, or senior, or were enrolled but not seeking a degree
- 75 percent were enrolled at a regental university in South Dakota.

The system is directing its attention to retention. The policy and resource compact approach to funding approved by the Board of Regents in January 2003 includes a performance-funding component that measures retention.

### **Opportunities:**

Continue existing retention efforts and focus additional attention on strategies that will increase the percentage of entering students who complete degrees in a timely manner. Efforts may include providing additional academic support to inadequately prepared students and additional financial aid for those who need it to continue their education.

### **Next Steps:**

- Appoint a system retention advisory committee to develop better practices for retaining students throughout the regental system.
- Seek legislative support for the resource compact performance matching funds, some of which will be allocated based on improvements in retention rates.

### ***Opportunity #4—Rapid City and Black Hills Area***

There are five public postsecondary institutions delivering curriculum to citizens of the Rapid City and Black Hills area. These are:

- At the undergraduate general education level, South Dakota School of Mines and Technology, Black Hills State University, and Western Dakota Technical Institute (WDTI) all offer curriculum that meets the general education needs of students seeking undergraduate degrees.
- At the graduate level, three universities—the University of South Dakota, South Dakota State University, and BHSU—offer graduate degrees in the field of education. While the degrees are labeled differently and have different requirements, they are all directed at the same general audience—K-12 teachers and administrators. There is interest in bringing additional education degrees to the region.
- USD and SDSU have administrative structures to support degree programs not available from the West River universities:
  - USD master's degrees in business administration and administrative studies
  - USD associate degree in nursing
  - SDSU degrees in nursing

Significant regional population shifts expected in the next 20 years suggest that it may be prudent to explore coordinating university curriculum in the Rapid City and Black Hills area (Custer, Fall River, Lawrence, Meade, and Pennington counties):

- lower K-12 population [5-19 years of age, - 14.5 percent],
- fewer college-age students [20-24 years of age, - 14.7 percent],
- slight decline in the non-traditional student population [25-44 years of age, - 5.2 percent], and
- significant growth in the senior population [55 and older, + 97 percent].

BHSU and SDSMT serve a total of 6,506 students (Fall 2002 headcount). With very few exceptions, the two institutions offer different undergraduate and graduate curricula. Currently, most of the discipline areas are only taught by one of the two institutions (business and education at BHSU and engineering at SDSMT). Some overlap exists in the general education fields, including math and science. (See tables on the next page.)

## Opportunities for South Dakota

### Undergraduate Majors in Degrees Conferred at BHSU and SDSMT—FY02

<b>Discipline Areas</b>	<b>BHSU</b>	<b>SDSMT</b>
Education, including Health & PE	139	
Business, Agricultural Bus & Accounting	126	
Health Care & Related	18	
Engineering		179
Technology/Engineering Technology	17	
Mathematics	4	8
Computer Science & Information Systems		19
Sciences	31	48
Social Sciences & Related	87	
Humanities	50	
Consumer & Family Science		
Journalism, Mass Communications	20	
<b>Totals</b>	492	254

### Graduate Degrees Offered at BHSU and SDSMT

<b>Discipline</b>	<b>Degree</b>	<b>BHSU</b>	<b>SDSMT</b>
Education	Master's	X	
Business Services Management	Master's	X	
Technical Management	Master's		X
Computer Science	Master's		X
Chemical Engineering	Master's		X
Civil Engineering	Master's		X

## Opportunities:

To better serve the citizens of the area and reduce costs, explore alternatives for the delivery of public postsecondary education in the Rapid City and Black Hills region. There may be advantages to cooperative management of certain academic areas and administrative functions. A review of the duplication of curriculum delivery with the regental institutions and Western Dakota Technical Institute would be a logical approach—where work toward a common delivery approach, especially in general education courses, might be a preferred outcome. A new approach to delivery of instruction might have some or all of the following features:

1. Faculty teach on both campuses and at off-campus locations such as Ellsworth Air Force Base and WDTI.
2. Coordinated hiring so as to avoid duplicating investments in specific areas of faculty expertise.
3. Joint leadership positions for some academic disciplines.
4. Responsibility for administering all public university degree programs in the area in a host-guest format. When a need exists for an academic program offered by another regental institution, the area consortium would invite the other university to offer the program in the area.

5. Consortium administrative support for all state university degree programs including:
  - SDSU baccalaureate degree in nursing
  - USD associate degree in nursing
  - USD and SDSU graduate degrees in education
  - USD master's degrees in business and administrative studies

## Next Steps:

- Invite the leaders of BHSU and SDSMT to develop alternatives for a regional consortium for delivery of higher education services and provide a joint report to the Board of Regents.
- Work with the Rapid City Area Schools' Board of Education to better integrate the delivery of post-secondary education.



## Opportunities for South Dakota

### *Opportunity #5—Greater Sioux Falls Area*

The greater Sioux Falls area contains a substantial and growing percentage of South Dakota's population. Census data show that the area's percentage of the state's population has increased substantially in recent history:

Less than five percent of the students who attend USDSU came right out of high school. As the workforce expands, there will also be significant demand for programs designed to provide continuing education and degrees needed for career advancement.

The university admission requirements could be a subject for further examination at USDSU. In

#### **Percentage of the State Population Lincoln, Minnehaha, and Union counties -- Recent Censuses**

<u>County</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>
<b>Lincoln</b>	1.82%	1.77%	2.02%	2.22%	3.20%
<b>Minnehaha</b>	12.70%	14.30%	15.80%	17.80%	19.60%
<b>Union</b>	<u>1.50%</u>	<u>1.45%</u>	<u>1.58%</u>	<u>1.46%</u>	<u>1.67%</u>
<b>Subtotal</b>	16.06%	17.54%	19.44%	21.47%	24.51%

The Sioux Falls area is expected to continue to grow. The population shifts expected over the next 20 years in the Sioux Falls area (Lincoln, Minnehaha, and Union counties) are significantly different from those expected West River:

- The K-12 population [5-19 years of age] will grow by 37 percent.
- The college-age population [20-24 years of age] will grow 43 percent.
- The non-traditional student population [25-44 years of age] will grow by 48 percent.

The continued growth of the Sioux Falls area as a population and economic center will create increasing demands for public higher education. Most of the demand will be for offerings targeted to "non-traditional" students – specifically, those who are more than five years from high school graduation, who attend part time, who work full time, and who

other states, community college admission requirements are often substantially lower than those for state colleges and universities, which might also vary. Within a single state, the public institutions may range from open enrollment (possibly requiring only a high school diploma) to highly selective (many highly qualified state residents denied admission).

Three universities have been working together in Sioux Falls for many years. Dakota State University, South Dakota State University, and The University of South Dakota offer degrees through a common administrative structure known as USDSU, headed by an executive dean. Currently, state universities offer the following certificates and degrees through USDSU:

### **Certificate Programs**

- Career Development series—business communications, human resource development, and employee assistance
- Not-for-Profit Management
- Alcohol and Drug Abuse Studies
- Programming and Systems Development

### **Associate Degrees**

- General Studies
- Applications Programming
- Business Management
- Respiratory Care
- Nursing

### **Bachelor Degrees**

- Business Administration
- Aviation Education
- Engineering
- E-Commerce
- Family & Consumer Sciences (Fashion Merchandising, Hospitality Management, etc.)
- Health Promotion
- Information Systems
- Liberal Studies
- Multimedia/Web Development
- Nursing
- Electronics Engineering Technology

### **Master's Degrees**

- Elementary and Secondary Education
- Special Education
- Curriculum and Instruction
- Computer Education and Technology
- Technology in Education
- Business Administration
- Accountancy
- Public Administration
- Administrative Studies
- Industrial Management
- Geography
- Nursing
- Information Systems

### **Opportunities:**

To serve the current and expected demand for public higher education in the greater Sioux Falls area, consider:

- A commitment to provide the basic undergraduate degree programs and selected graduate degree programs delivered in a manner that accommodates the schedules of prospective students.
- Evaluation of additional programs to determine whether there is sufficient student demand and employer need for graduates to warrant offering in Sioux Falls. Programs that might be given consideration include:
  - Degree in Education, possibly a professional development school model in conjunction with Sioux Falls or another area school district
  - B.S. in Criminal Justice
  - B.S. in Psychology
  - Bachelor in Applied Technical Science

## Opportunities for South Dakota

- Master's in Counseling
- Executive MBA (weekend schedule)
- Ed.D. in Educational Administration with executive (weekend) schedule
- Doctorate in Applied Technology
- Law education
- Review of degree program management to ensure that students have the opportunity to complete degrees in a timely manner. Responding to student and community needs is central to the management of programs offered in Sioux Falls.
- Review the duplication of curriculum offered by the universities and Southeast Technical Institute and work toward a common delivery approach, especially in general education courses.
- Review undergraduate admissions in Sioux Falls to assess the effects of current policies.

### Next Steps:

- Appoint an advisory committee to review the needs of public postsecondary education in Sioux Falls.

### *Opportunity #6—Off-campus Instructional Services*

Place-bound, non-traditional adult students will continue to be a population requiring additional services from public higher education in South Dakota, especially those populations in areas of the state not served directly by a residential campus. This will increase the need for off-campus educational services, including the Electronic University Consortium and site-based services throughout the state where a residential campus does not exist. Currently, all universities offer off-campus instruction through electronic delivery. In addition, there are several site-based off-campus programs—BHSU in Rapid City; DSU in Sioux Falls; NSU in Pierre and at multiple sites with its high school dual credit program; SDSU in Sioux Falls, Rapid City, Pierre, and through its extension offices; and USD in Sioux Falls, Rapid City, Pierre, and Sioux City, Iowa.

Today and in the future, our students will expect that the Internet is a resource for conducting business. Students will turn to the Internet first as their primary source of information and services whenever possible. Today, more than 75 percent of 17 year olds have access to the Internet. Further, South Dakota's working adults have little time for the information delays and waiting lines on campus to obtain student services.

## **Opportunities:**

Organize the delivery of off-campus programs and services under a common leadership that can effectively integrate responses to the needs of this special population. Respond with a unified approach to the need for university courses at technical institute sites, especially in the general education disciplines.

The Board of Regents' STUDENT Project will provide a consolidated database for student and curriculum records. With that foundation in place, the South Dakota public university system will be one of the best prepared in the U.S. to deliver to students and universities fully automated single-source statewide online student services, such as admissions applications, course registration, degree audit and advising, fee payments, financial aid, and transcript handling. This would fulfill the "one-stop statewide student services" vision that was charged to the Electronic University Consortium (EUC).

## **Next Steps:**

- Review current delivery of programs and student services to off-campus locations and complete the STUDENT Project to facilitate the online communication process with students.

### Opportunities Related to Quality

*Opportunities Related to Quality—reflect the need to enhance the quality of services available from public higher education.*

#### **Policy Goal # 2 Academic Quality and Performance: South Dakota public universities and special schools shall provide a quality educational experience.**

##### **Hire and retain the best available talent pool in teaching, research, and administration.**

- a. Reduce the gap between salaries in the system and those in surrounding states.
- b. Enhance private fund raising for academic support.

##### **Adapt instruction to contemporary technology.**

- a. Increase the use of technology in all instruction.
- b. Adjust technology literacy requirements for students to match changes in new student population experiences.

##### **Increase rigor of student academic experiences.**

- a. Include major field nationally normed assessment in capstone experiences and record percentile scores for all students.
- b. Increase the writing and speech communications expectations for all students throughout the curriculum.

The state universities have a history of providing an excellent education to South Dakota students. For example, system graduates have an outstanding record on national examinations required for professional licensure and certification:

- 97 percent (31 of 32) passed the dental hygiene examination
- 92 percent (35 of 38) passed the bar examination
- 97 percent (50 of 52) passed the step 2 (4<sup>th</sup> year) medical examination
- 93 percent (116 of 125) of bachelor degree graduates passed the nursing licensure examination
- 89 percent (107 of 120) of associate degree graduates passed the nursing licensure examination
- 100 percent (44) passed the pharmacy examination

Other indicators of the quality of South Dakota education include admissions to professional schools (medical, law, veterinary, dental, etc.), graduate programs, and recruitment by major employers.

### ***Opportunity #7—Salary Enhancement and Competitiveness in the Recruitment and Retention of Faculty and Administrators***

In the late 1990s, the state universities were finding it increasingly difficult to attract and retain quality employees. Salaries in other states, including the surrounding states, were higher than those in South Dakota. Effective with FY99 salaries, the Board of Regents implemented a three-year Salary Competitiveness Program for faculty and other exempt employees to allow the universities to offer salaries that were competitive with those in the region. In FY98, the Board needed 16.6 percent more salary resources to have enough to pay salaries at the average of the surrounding states. The Salary Competitiveness Program allowed the Board of Regents to increase salaries more than the state salary policy. As a result of the program, by FY03 the Regents needed only 8 percent more salary resources to have enough to fund salaries at the average of the surrounding states.

The Board of Regents has funded the Salary Competitiveness Program with limited state resources. The Legislature allowed the Board of Regents to keep \$1.6 million in formula resources that would have been lost due to reduced enrollments and provided a small amount of pesticide fee revenues. The Board raised about 89 percent of the resources with FTE reductions, student fee increases, the reallocation of existing tuition revenue, federal grant recovery, and user fees. The resources are distributed based on individual employee performance, market conditions (salary relative to market for the position), and institutional priorities.



## Opportunities for South Dakota

The Salary Competitiveness Program has been very well received by faculty and other exempt employees and has assisted the universities in attracting candidates for open positions.

### Opportunities:

Given the historic progress the Board of Regents has made in recent years to close the gap with surrounding states, the primary opportunity related to recruitment and retention may be to continue the Salary Competitiveness Program. There may be additional opportunities to strengthen faculty recruitment and retention by targeting funding in selected disciplines for salaries, research equipment, and support for grant writing.

### Next Steps:

- Continue to support the Salary Competitiveness Program.
- Initiate discussions about the possibility of support for research faculty salaries in order to make positions in targeted disciplines more attractive to prospective and current faculty.

### *Opportunity #8—Technology at the Universities and in the Curriculum*

In recent years, the system has undergone enormous changes to bring contemporary information technology into teaching across the curriculum and to establish new degree programs related to technology:

- The Governor's Electronic Classrooms have allowed the universities to share courses with each other and to provide instruction to persons who cannot attend on a campus.
- State resources for technology allowed the universities to invest in additional equipment and software needed to bring technology to courses across the curriculum.
- A substantial portion of the Reinvestment through Efficiencies resources identified during 1995 (and inflated to keep pace with salary policy since then) has been directed to the technology infrastructure and to the redesign of the curriculum, much of which has involved technology.
- The Student Technology Fellows program established by the Legislature in 2000 has funded exceptional South Dakota resident students who support faculty efforts to use technology in their courses.
- The Governor's Faculty Awards for Teaching with Technology in 1998, 1999, 2000, 2001, and 2002 provided resources for faculty compensation, travel, equipment, and software so that faculty could learn the technology related to their disciplines and redesign courses to expose students to technology.
- The 2003 Governor Rounds' Grant Program in Course Redesign will provide resources to redesign courses using externally developed course materials to improve learning and reduce costs.
- Courses have been redesigned and program requirements modified to reflect changes in technology.
- A number of new degree programs related to technology have been developed and implemented with no new state resources (minors and certificates not listed):
  - DSU – M.S. in Information Systems, 1999

- DSU – M.S.Ed. in Computer Education and Technology, 1999
- USD – M.S. and Ed.S., Technology for Education and Training, 1999
- BHSU – A.S. in Web Administration, 2000
- BHSU – A.S. in Network Administration, 2000
- DSU – Baccalaureate Major/Minor, Web Development/Web Design, 2000
- DSU – Baccalaureate Major/Minor, Electronic Commerce, 2000
- NSU – A.S. in Network Administration, 2000
- NSU – A.S. in Multimedia Graphic Design, 2000
- NSU – A.S. in Desktop Publishing, 2000
- SDSU – Baccalaureate Major, Geographic Information Sciences, 2001
- NSU – M.S.Ed. in E-learning Design and Instruction, 2002
- NSU – M.S. in E-learning Technology & Administration, 2002
- SDSU – Baccalaureate Major, Software Engineering, 2003

### Opportunities:

Continue efforts to integrate technology into the curriculum in all disciplines so that students will be able to use the technology applications they will encounter after graduation. Continue efforts to adopt externally developed instructional materials and technology-based instruction that will increase student learning and reduce costs.

### Next Steps:

- Seek continued support for Governor Rounds' grants.
- Complete the STUDENT Project.
- Develop approaches to make greater use of shared resources, including online repositories of learned materials.

### *Opportunity #9—Increasing Academic Expectations*

In recent years, the universities have focused attention and resources on improving the quality of degree programs:

- The universities have added new programs to provide students with degree offerings that reflect current disciplines and state needs. These new programs have been added without new resources.
- A new system general education program was established.
- Programs and courses are revised to keep pace with developments in the disciplines.
- Centers of Excellence were established to provide special opportunities for students.
- Honors programs have been established.
- A technology proficiency requirement was added to ensure that graduates can use modern technology
- The system proficiency examination for rising juniors was implemented with no new state funds.

## Opportunities for South Dakota

The six state universities participated in the 2002 National Survey of Student Engagement, which measures freshmen and senior student perceptions of their academic experience. South Dakota public institutions were consistently above national norms for public universities in “student-faculty interactions” (talking with faculty members and advisors, discussing ideas from classes with faculty members outside of class, getting prompt feedback from faculty on academic performance, and working with faculty on research projects) at both the freshmen and senior levels. Seniors also scored the South Dakota system higher than other public universities in the area of “student activities collaboration” (participating in class, working collaboratively with other students inside and outside class).

There were two areas where South Dakota students evaluated the system lower than other public institutions. These should be areas for increased focus. One is the “level of academic challenge” (time spent preparing for class, amount of reading and writing assignments, and expectations for academic performance). The other is “an enriching educational experience” (exposure to students of different backgrounds, using electronic technology, and participating in internships, community service, study abroad).

### Opportunities:

Continue leadership efforts to increase the rigor of student academic experiences by developing plans to increase written and spoken communications expectations across the curriculum and by including normed assessments in capstone courses.

### Next Steps:

- Undertake a system review of general education requirements and invite each university to prepare an action program that enhances its academic experience for students.

### *Opportunity #10—Teacher & School Administrator Education*

Five state universities offer undergraduate and graduate programs in education for essentially the same markets:

- Undergraduate students who want to become teachers
- Teachers who seek master’s degrees:
  - To improve knowledge and advance on salary schedules
  - To become school counselors
  - To prepare for administrative positions
- Administrators who seek credentials for higher positions

In FY02, only the business field produced more baccalaureate majors than education. While there are some unique programs (for example, agricultural education at SDSU), there is also substantial overlap in the programs offered. The FY02 baccalaureate teacher education graduates (510) illustrate the substantial overlap across the teacher education programs:

- Health & physical education graduates at BHSU [5], DSU [7], NSU [4], SDSU [16], USD [9]
- Mathematics education graduates at BSHU [2], DSU [4], NSU [5], SDSU [8], USD [3]

- Biology education graduates at BHSU [1], DSU [4], NSU [1], SDSU [5], USD [3]
- Elementary education graduates at BHSU [73], DSU [23], NSU [68], USD [52]
- Special education graduates at BHSU [31], DSU [28], NSU [16]
- Music education graduates at BHSU [2], NSU [8], SDSU [13], USD [4]
- History education graduates at BHSU [2], NSU [5], SDSU [5], USD [6]

At the graduate level, the education

The graduate programs in education accounted for 36 percent of all graduate and professional degrees conferred by system universities. While the education degrees offered by the different universities may have different labels and requirements, they are all targeted at the same general market—K-12 teachers and administrators.

The number of teacher education programs is a result of the Legislature's actions when it established the universities and established their purposes. The statutes establishing the universities

<u>Graduate Degree</u>	<u>Degree</u>	<u>BHSU</u>	<u>DSU</u>	<u>NSU</u>	<u>SDSMT</u>	<u>SDSU</u>	<u>USD</u>	<u>System</u>	<u>% System</u>
Education (& HPER)	Master's	23	12	19	0	34	93	181	17.5%
Education	Specialist	0	0	0	0	0	2	2	0.2%
Education	Ed.D.	0	0	0	0	0	3	3	0.3%
Education, Administration	Master's	0	0	9	0	29	22	60	5.8%
Education, Administration	Specialist	0	0	0	0	0	16	16	1.5%
Education, Administration	Ed.D.	0	0	0	0	0	28	28	2.7%
Ed. Psych & Cnslg/Counseling	Master's	0	0	11	0	48	18	77	7.4%
Ed. Psych & Cnslg/Counseling	Specialist	0	0	0	0	0	4	4	0.4%
Ed. Psych & Cnslg/Counseling	Ed.D.	0	0	0	0	0	3	3	0.3%
<u>Ed. Psych &amp; Cnslg/Counseling</u>	<u>Ph.D.</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>3</u>	<u>3</u>	<u>0.3%</u>
System, Education subtotal		23	12	39	0	111	192	377	36.4%
System, All Graduate & Professional Degrees		24	27	39	85	307	555	1037	

programs overlap with each other and contribute a significant portion of the graduate and professional degrees in the system. The table above provides the FY02 graduate degrees in education conferred by each university (see *Fact Book FY2003*, pages 17-18):

specifically include teacher education for all but SDSMT. When the universities were established, the Legislature recognized the widespread need for teachers, the difficulties of traveling long distances, and provided for teacher education programs in different parts of the state. (Other fields such as law, medicine, engineering, and agriculture are included in the statutory missions of only one or two universities.)

## Opportunities for South Dakota

The teacher education programs have a long history of both competing with each other and working together. In recent years, cooperative efforts have increased:

- SDSU and USD cooperate to offer master's degrees in Sioux Falls;
- DSU and USD cooperate to offer master's degrees related to educational technology;
- SDSU and USD cooperate to offer the Ed.D. degree in Brookings;
- The Education Discipline Council built on a long history of regular meetings among the deans of education to become one of the most active of the system discipline councils;
- SDSU and USD share a dean of education.

The teacher education programs account for significant numbers of students at both the undergraduate and graduate levels and thus generate significant tuition and fee revenue for the universities and the system. The current state and national activities in education policy provide several reasons to examine teacher education:

- What changes in the teacher education programs does the federal No Child Left Behind Act require?
- What are the implications of the reorganization of the South Dakota Department of Education for teacher education programs?
- Does the declining number of K-12 students in South Dakota mean declining numbers of teaching positions? Does the system need continued investment in undergraduate teacher education at levels required to produce the current numbers of graduates?

- Are there curriculum areas where there will be shortages of teachers that need to be addressed by the colleges of education? Likewise, are there geographical areas that will be unable to meet the need for certified teachers?
- South Dakota teacher salaries remain low when compared to other baccalaureate degree positions and to teacher salaries in other states. Will interest in teacher education programs continue at the same level, given the low salaries?
- Educators are increasingly experienced in using technology (due in part to significant changes in the teacher education curricula, as well as state initiatives) and they can access courses and programs offered by fully accredited, high quality colleges and universities outside the state. How can the system offer educators quality programs that respond to their needs for professional development and convenience?



## Opportunities:

Given the political and geographical demographics facing K-12 education, the reorganization of the state Department of Education to respond to No Child Left Behind, and public and policymaker interest in education, this may be a good time for broader discussions of the challenges facing teacher education programs:

- Analyze the future demand for teachers and administrators in South Dakota given demographic trends, No Child Left Behind Act requirements, salaries, expected retirements, etc. to determine whether program capacities should be maintained, expanded, or reduced.
- Engage the South Dakota Board of Education and the Department of Education in an analysis of the benefits and costs of state regulations governing teacher education programs to determine whether there are changes that would allow the programs greater flexibility to achieve quality.
- Analyze teacher education programs to identify changes that would improve quality and respond to the changing demographic and legal environment:
  - Are there additional opportunities for collaboration that would improve quality of the programs offered to future and current educators?
  - Are there majors or degree programs that could be reduced or terminated to release resources needed to address higher priorities such as NCLB?
  - Are there ways to use technology to increase teacher education program effectiveness and streamline operations?

## Next Steps:

- Appoint a teacher education advisory committee with persons from within the system, state agencies, associations, and the private sector to develop options that will improve the quality and service of the teacher education programs.



### *Opportunity #11—Coordination of Health Care Degree Programs*

There will be an increasing demand for health care professionals as the population of South Dakota ages [from 110,000 persons 65 years and older in 2000 to 188,000 in 2025], as new technologies in the medical field require further specialization, and as the health care delivery sector of South Dakota grows. There currently exists clear shortages of nurses and pharmacists in South Dakota and the list of other health profession shortages is growing. Meeting the clinical and financial needs of these unique programs will become increasingly difficult. No doubt the changing demographics of this population will stress the capacity of the state's medical professions.

The state university system offers an M.D. program and degrees in 11 other health care fields. All of these programs need attention from the health care community, in addition to the M.D. program. Each program independently seeks support for its program from health care providers and arranges for its separate needs for practicum and clinical instruction.

<b>Health Care Degree Programs</b>					
<b>Program</b>	<b>BHSU</b>	<b>DSU</b>	<b>NSU</b>	<b>SDSU</b>	<b>USD</b>
Medicine					MD
Alcohol & Drug Abuse Studies					B
Communication Disorders					B, M
Dental Hygiene					A, B
Health Information		A, B			
Nursing				B, M	A
Occupational Therapy					M
Physical Therapy					M
Pharmacy				PharmD	
Physician Assistant Studies					B
Respiratory Care		A, B			
Clinical Laboratory Technology				B	
Medical Technology			B		B

A=Associate, B=Baccalaureate, M=Master's  
(SDSMT is not shown because it has no health care programs.)

## Opportunities:

There are opportunities to meet the need for increased numbers of health care workers, improve program quality, and improve relationships with the health care industry:

- A health care programs consortium that can oversee the relationships of health care programs (other than the M.D. program) with health care providers may serve to improve relations with industry and reduce duplication of effort.
  - A consortium could work with health care providers to arrange for the needs of individual programs through formal relationships.
  - A consortium could also unify efforts to seek support delivery of the individual programs.
  - A consortium could be composed of the CEOs of the participating public universities and higher education system and CEOs of the health care community organizations.
- An analysis of health care degree program operations may identify changes that would improve quality.
  - Are there changes to processes and structures that could improve quality?
  - Are there programs that should be closed or scaled back to release resources to the remaining programs?
  - Are there ways to use technology to increase program effectiveness and streamline operations?

- Examine new approaches for providing trained health care workers through academic programs, such as a community pharmacy degree program in addition to or in place of the Pharm.D. program.

## Next Steps:

- Initiate discussions with the health care industry concerning the establishment of a consortium.
- Conduct a needs analysis of the increased number of health care workers, including medical doctors, required to serve the state's projected aging population and prepare to expand programs to meet identifiable shortages.

## Opportunities for South Dakota

### Opportunities Related to State Wealth

*Opportunities Related to State Wealth—reflect the need for higher education to be an aggressive partner with the state and private sector in creating the infrastructure for the 21<sup>st</sup> century economy of South Dakota.*

#### **Policy Goal #3 State Wealth: South Dakota public universities shall engage in activities designed to enhance the state's long-term economy.**

##### **Enhance research and development productivity through grants and contracts.**

- a. Increase contract and grant activity at all public universities.
- b. Enhance research and development activity in select graduate programs in science, health, engineering, and information technology.
- c. Concentrate research investments in areas important to the state.
- d. Increase quality of graduate programs, including recruitment of graduate students and competitiveness of assistantships.

##### **Increase the universities' role in stimulating economic activity in the state.**

- a. Increase alliances with businesses and economic development leaders that contribute to growing and attracting new jobs.
- b. Increase the number of graduates in academic disciplines critical to the South Dakota economy, especially in the health sciences.
- c. Increase the level of contract technical assistance and R&D with South Dakota enterprises.
- d. Increase the number of patents and copyrights issued to public universities.

##### **Teach more entrepreneurship to students and faculty.**

- a. Provide minors in entrepreneurship at each university.
- b. Provide faculty and student development opportunities focused on how to transfer new knowledge into economic activity.
- c. Increase internships and mentoring relationships with South Dakota entities.
- d. Increase the number of graduates with field experience in their discipline.

## ***Opportunity #12—System Research Infrastructure for the New Economy***

South Dakota has an underdeveloped capacity for creating new knowledge or applications of knowledge. South Dakota ranks 50<sup>th</sup> among the states in research and development in the private sector, 50<sup>th</sup> among the states in federally funded research, and 50<sup>th</sup> in the number of patents and copyrights issued to its citizens.

Providing a competitive research infrastructure for the new economy requires a comprehensive strategy for which there are no shortcuts. This includes:

1. Hiring the best talent in the world.
2. Supporting the talent with appropriate research tools—computers, equipment, labs, available time, and support staff.
3. Creating high quality graduate degree programs in targeted areas.
4. Recruiting nationally for top graduate student talent.
5. Supporting the extension of research through increased contracts and grants.
6. Locating and finding ideas in research that are of value to the marketplace.
7. Assisting in the transfer of ideas to the marketplace.

The strength of the state to compete in the new economy will be the infrastructure available to stimulate creation of new knowledge that can be translated into commercial activity. To date, there has been a very limited orientation toward the development of this infrastructure. In South Dakota's public higher education institutions:

1. Faculty salaries (average of all ranks) are significantly below national marketplace competition [South Dakota: \$55,134; National: \$65,352].
2. Science, engineering and computer labs, and support structures are used primarily for instruction, not research.
3. Graduate programs are few [17 doctoral/professional programs, three specialist programs, and 32 master's degree programs]. Where they exist, there is limited critical mass needed to create significant clusters of talent in a field. Graduate education in the public university system is concentrated in education [377 degrees awarded], business [96 degrees awarded], and health care [186 degrees awarded]. The graduate (master's, specialist, doctoral) and professional degrees (J.D., M.D., Pharm.D.) conferred by the state universities are concentrated in a small number of disciplines. Relatively small numbers are in the sciences [87 degrees awarded] and engineering/computer science/information systems [129 degrees awarded].
4. The public system has been built on a teaching, rather than a research, faculty orientation. A teaching load of 12 hours a semester is common for undergraduate teaching institutions, and that is the common practice in the assignment of faculty in South Dakota.
5. Graduate student recruitment is limited due to noncompetitive graduate student stipends and benefits. South Dakota's average yearly stipend is \$4,370, with the graduate assistant paying one-third

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of tuition charges and all fees. No health or dental coverage is provided. Other state universities in our region provide an average yearly stipend of \$9,284, with graduate assistants paying about one-quarter of their tuition and all fees. A majority of the universities surveyed regionally provide health insurance coverage to their graduate assistants, and several also offer dental insurance.

The state's only investment in research with state dollars is the Agricultural Experiment Station [\$8.7 million]. Leadership at SDSU currently organizes this research, using federal guidelines. The AES does link to agriculture groups through its advisory committees.

The other primary research activity of the public university system is the National Science Foundation's Experimental Program to Stimulate Competitive Research (EPSCoR) program. Its purpose is to stimulate the development of research capacity. Currently, it focuses on the following research areas:

- Biocomplexity
- Cellular and Molecular Biology (i.e., proteomics)
- Materials and Processes for the 21st Century (i.e., chemistry, physics, and materials science)
- Scientific Visualization (i.e., information technology)

EPSCoR is not the end game for research; it is to build the starting point. Faculty members are expected to graduate from EPSCoR support and be

active researchers with success in external funding for their programs. The REACH Committee, which includes some representation from the government and business communities, oversees the EPSCoR agenda.

Although EPSCoR and AES have made significant contributions, South Dakota still lacks an overall research development strategy with expectations for linkages to larger state goals and the economy.

University research is closely linked with graduate education. Faculty members with interests in research who pursue significant grants and contracts typically want to work at institutions with a graduate program in the discipline. Graduate students are interested in studying with active researchers and are an important part of the research workforce. And, important sectors of the new economy require persons with graduate education. Significant expansion in research grants and a transition to the new economy may both require and be supported by targeted expansion of selected graduate programs.

## Opportunities:

There may be an opportunity to contribute to state economic development by mobilizing existing and new resources to increase research activity through grants and contracts. One possibility is to create a state Office for the New Economy. A variety of functions might be assigned to such an office:

1. Develop strategic areas of research and graduate education [economic clusters].
2. Assist in developing a research-directed faculty base by having selected faculty members hired and assigned to primarily engage in and lead research activities—this would mean a new orientation to faculty workload and an evaluation system for those faculty.
3. Identify selected graduate degree programs where sufficient critical mass of students and faculty exist that can be further developed to create a cluster of activity within a research area—for instance, mathematics and the sciences, including agricultural sciences and biomedical sciences; engineering, computer science, and information technology; health care, including medicine.
4. Manage a pool of resources that can be used to buy faculty time for specific projects that have economic development and potential for commercialization—for instance, a pool that would provide for the buying of one-half release time for 50 faculty members each year.
5. Create a competitive environment for graduate education through competitive graduate student support in order to attract both the quantity and quality of graduate students to support the development of new knowledge.
6. Have a fully staffed Division of Contracts and Grants that can assist faculty in locating grant opportunities and making competitive proposals.
7. Establish a Division of Technology Transfer that can identify faculty research activity that has commercial value and assist in the steps of bringing this to commercialization.
8. Host an Idea Academy where faculty with ideas for commercialization can explore them before investing energy in the development of the idea and a business plan.
9. Support entrepreneurship academic program minors at each university—hiring appropriate faculty at each institution who can work with students and other faculty.

## Next Steps:

- Initiate discussions with the executive branch on building a more responsive research infrastructure and creating an Office for the New Economy.



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### Opportunities Related to Efficiencies

*Opportunities Related to Efficiencies—reflect the requirement for continuous re-examination of the mechanisms and approaches used in delivering the services of public higher education.*

**Policy Goal #4 Efficiency: South Dakota public universities and special schools shall continue to seek means for improving efficiency in the delivery of educational services.**

**Increase effective use of the state's limited resource base.**

- Change system processes and structures to maximize resource use.
- Substitute new curriculum for unnecessary and dated curriculum.
- Manage workload assignments to maximize use of available total system resources.
- Collaboratively use technology to deliver instructional services.

### *Opportunity #13—Administrative Support and Operations*

Numerous support operations are performed independently at each of the institutions within the regental system. Examples include:

- Accounting
- Cashiering
- Human resources and payroll
- Purchasing
- Records management
- Check writing
- Information systems management and applications
- Loan collections
- Employee recruitment, selection, training
- Course management functions

Most of these are performed within the administrative structure and processes of each university. The sharing of best practices among the institutions is random and without a unified strategy that attempts to take advantage of individual institutional efforts. There are numerous examples of quality work that has taken place for which all institutions might benefit with more aggressive approaches to the sharing of information and investments made by each institution.

For example, **South Dakota School of Mines & Technology**, through a federal grant, implemented Web Advisor to provide:

- Online class schedules;
- Advance online registration (which “students love,” according to one university administrator);
- Online registration for classes;
- Online dropping and adding of classes;

- Faculty online access to class rosters;
- Faculty online grade entering;
- Student online access to grades;
- Faculty advisor online access to advisee rosters and related information;
- Faculty advisor and student online access to student records and to Degree Audit to monitor a student's progress toward a degree objective; and
- Student-initiated online printing of unofficial transcripts.

**Black Hills State University** has implemented three initiatives designed to facilitate accounts payable operations:

- An interface for financial information systems (FIS) eliminates multiple data entry for interdepartmental bills, reduces errors, and saves staff time;
- A Web site addressing frequently asked questions reduces staff time responding to telephone and walk-in inquiries; and
- A Web site making available frequently used forms reduces printing costs and reduces office traffic.

Innovations adopted by **Dakota State University** include:

- Use of the Web to distribute information on policies, forms, and training on sexual harassment;
- Accounting forms (Travel Advance, Travel Payment, State of South Dakota Voucher, DSU Local Voucher, Purchase Requisition) can be downloaded, typed in Excel or Word, and printed off with special paper (need three copies);

- The Business and Administrative Services Office has trained account managers on how to use the financial accounting system (FIS) and how to view their accounts online. With online access to FIS monthly account statements, account managers do not have to wait for current reports. In the past, printed monthly reports required one day to print, rip apart, sort, and distribute;
- The Accounting Office uses Excel to upload transfers with numerous entries into FIS.

The **University of South Dakota's** Information Technology Services has:

- Started batch loading items into the student information system, such as proficiency exams, that formerly were entered manually;
- Implemented software to allow users to generate their own reporting from the student record system as well as from the accounting system, an arrangement that eliminates the need for IT to generate all the reports and provides more timely information to users;
- Implemented Web Advisor for student registration, including add/drop, online schedule of classes, and unofficial transcripts;
- Developed an interface between WebCT and Datatel that allows students to be added automatically to their WebCT course in one step, eliminating the need for each student to be manually entered.

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### At South Dakota State University:

- More effective service to students is provided through introduction of electronic posting of federal Stafford Loan proceeds to individual student accounts and installation of an integrated campus card system. Electronic posting enables SDSU to distribute refund checks to students on registration day;
- An integrated campus card system is used for student identification, food service, vending, laundry services, computer laboratory and library printing services, on-campus food service facilities, and many off-campus merchants;
- Many online forms now support the budget office and human resource functions;
- Purchasing of small-dollar items and airfare is being made more efficient through use of charge cards. State procurement cards are used for small-dollar purchases, and use of the Airfare Travel Card account has simplified airfare booking by avoiding a purchase order or voucher for each transaction.

Northern State University provides significant services to another system institution in the work it does with the **South Dakota School for the Blind and Visually Impaired**, including the following:

- Purchasing assistance for both supply inventories and contracts;
- Access to the telecommunications network for administrative linkages and Internet;
- Support and administration of the computer network;
- Access to computer disks and supplies;
- Access to high-speed printer for lengthy computer printouts;
- Technical support, installation, and maintenance of hardware and software used by the blind and visually impaired;
- Print shop printing and lamination services;
- Access to large items of physical plant equipment as needed.

There are considerable examples of very good innovations and campus-based solutions to administrative support at the individual campuses. Because of the independent nature of each operating unit, there are also multiple examples of where investments are not coordinated. These include:

- The situation where three institutions are simultaneously investing in the development of local course/class management software.
- The individual developments of Web Advisor applications on each campus.
- The approach used for personnel and job announcements.

The STUDENT project will provide a consolidated database for student and curriculum records. With that foundation in place, the South Dakota public university system will be one of the best prepared in the country to deliver to students and universities fully automated single-source statewide online student services, such as admissions applications, course registration, degree audit and advising, fee payments, financial aid, and transcript handling. This would fulfill the “one-stop statewide student services” vision that was charged to the Electronic University Consortium (EUC).

#### **Next Steps:**

- Create a system position of “director of innovation,” whose sole purpose is to find and facilitate the adoption of best practices. Consolidate practices and operations where practical, particularly in areas that are transparent to the universities’ customers or students.

#### **Opportunities:**

Because substantial increases in state funds (above salary policy) are unlikely in the near future, the Board of Regents may wish to focus system attention on efforts to find resources through efficiencies. The following might be examined further:

- A system function that encourages the sharing of best practices and innovations in order to reduce duplicative investments and efforts—an Office of Institutional Innovation and Change. Financial and human resources dedicated to the implementation practices that reduce costs will make it easier to look for and transfer such practices to other institutions.
- Consolidation of certain “backroom” functions to a single location or delivery system where doing so would produce cost reductions.

### Opportunities for the Special Schools

*Opportunities for the Special Schools—reflect the changing circumstances and issues of special education services.*

#### **Opportunity #14—Deaf Education**

The clientele of the South Dakota School for the Deaf (SDSD) is changing as a result of new technology and family choices:

- There is a smaller population of school-aged children in South Dakota.
- There are increased numbers of deaf families moving to Sioux Falls.
- There are increasing numbers of cochlear implants being performed on children who are deaf or hearing impaired. As a result, there are opportunities and responsibilities for establishing an educational platform for children undergoing cochlear implants.

There is a continuing debate within the deaf community about the centrality of creating a signing community as the core mission of the school. This is a debate that will intensify as alternative responsibilities are identified for the school. The following data forecast the demands for deaf education over the next couple of decades in South Dakota:

- South Dakota has about 56,000 children between the ages of 0-4 and about 153,400 children between the ages of 5-18. That is about 210,000 children, or a quarter of the state's population. We would expect to see about 210 children with hearing loss in any given year, because hearing loss occurs in about one person per 1,000.
- Roughly, males with hearing loss outnumber females with hearing loss on a 3-2 basis.
- Typical degrees of hearing loss range within a population, but translate roughly to 20 percent mild loss, 50 percent moderate loss, and 30 percent severe to profound loss.
- Applying these rough percentages to the estimated number of children with hearing loss produces the estimated distribution shown in the table below:

<u>Degree of Hearing Loss</u>	<u>Percentage</u>	<u>Boys</u>	<u>Girls</u>	<u>Total</u>
Mild	20%	25	17	42
Moderate	50%	63	42	105
<u>Severe to profound</u>	<u>30%</u>	<u>38</u>	<u>25</u>	<u>63</u>
<b>Totals</b>	<b>100%</b>	<b>126</b>	<b>84</b>	<b>210</b>

- Children with mild and moderate losses (roughly 70 percent) will stay within their local school district to be served by outreach (if at all), because hearing aids compensate for their loss sufficiently for them to receive regular instruction.
- A few of the students with severe to profound losses will succeed in the mainstream with hearing aids or interpreters. Most will not.
- School for the Deaf outreach services identified 152 children on their collective caseload, of which 66 are at SDSD. An analysis of specific caseloads shows that the “missing” (unserved) children are more likely to be those with mild losses.
- Children with severe to profound losses are more likely to attend the School for the Deaf. The SDSD caseload only reflects children between the ages of 3-18, as children from birth to age 3 must be served at home and by outreach staff under state law.
- Areas with significant American Indian populations will have a higher level of severe/profound hearing loss.
- There will be an increase in genetically deaf children from Communication Services for the Deaf (CSD) populations (outreach data already demonstrates this fact).
- The numbers of SDSD students will increase beyond the expected average as CSD grows.
- The numbers of SDSD students will increase beyond the expected average as the state population shifts from rural areas.
- The number of children with cochlear implants will annually increase, with as many as half of the students at SDSD to be implanted by 2004-05.
- The number of children without cochlear implants is expected to annually increase and be related to growth at CSD. Predicted state population for the ages of 0-18 is fairly steady over the next 20 years, i.e., the numbers will be as they are now. According to the census data, there are 56,000 children.

Critical mass will continue to be an important issue for services provided by the School for the Deaf. Simply put, operating a single site for educating the severely deaf is the only approach that provides any hope of amassing sufficient numbers of students. Sub-state regionalized programs would dilute an already small population. As the students advance and seek services that enhance their education, the critical mass issue only becomes more pronounced. For example, sufficient numbers are needed for athletic programs or any other social program. Since the whole multi-state region is contracting in numbers, critical mass may require a multi-state approach.

### Opportunities:

Reorganize the educational services for the deaf and hearing impaired to accommodate multiple educational and communication platforms. Consider the following alternatives:

Therefore, if the population of children 0-18 years of age stays stable in South Dakota, it is expected that:

- The SDSD outreach staff will serve between 150-210 children each year.
- SDSD will serve an average of 50-80
- Re-state the central role of the South Dakota



## Opportunities for South Dakota

resource and leader in directing the educational program of children identified as deaf and hard of hearing;

- Examine alternatives for sub-state regions where critical mass may exist to educate children who have cochlear implants and who do not rely on American Sign Language as their principal means of communication;
- Examine the feasibility of a multi-state approach to secondary education as a response to creating critical mass that will enhance the educational program.
- Examine the role of SDSB in educational interpreting for students.
- Examine the role of SDSB in serving students with cochlear implants.

### Next Steps:

- Establish an advisory committee to review options for providing deaf education services to the citizens of South Dakota.